

SEQUENCE LISTING

<110> WEISMAN, LOIS

<120> INTRACELLULAR SIGNALING PATHWAYS IN DIABETIC SUBJECTS

<130> IOWA:048US

<140> UNKNOWN

<141> 2004-03-02

<150> 60/452,782

<151> 2003-03-07

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<170> PatentIn Ver. 2.1

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<213> Homo sapiens

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Gly Phe Val Arg Phe Leu Glu Gly Tyr Tyr Ile Val Leu Ile Thr Lys
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Arg Arg Lys Met Ala Asp Ile Gly Gly His Ala Ile Tyr Lys Val Glu
115 120 125

Asp Thr Asn Met Ile Tyr Ile Pro Asn Asp Ser Val Arg Val Thr His
130 135 140

Pro	Asp	Glu	Ala	Arg	Tyr	Leu	Arg	Ile	Phe	Gln	Asn	Val	Asp	Leu	Ser
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Ser Asn Phe Tyr Phe Ser Tyr Ser Tyr Asp Leu Ser His Ser Leu Gln
 165 170 175

 Tyr Asn Leu Thr Val Leu Arg Met Pro Leu Glu Met Leu Lys Ser Glu
 180 185 190

 Met Thr Gln Asn Arg Gln Glu Ser Phe Asp Ile Phe Glu Asp Glu Gly
 195 200 205

 Leu Ile Thr Gln Gly Gly Ser Gly Val Phe Gly Ile Cys Ser Glu Pro
 210 215 220

 Tyr Met Lys Tyr Val Trp Asn Gly Glu Leu Leu Asp Ile Ile Lys Ser
 225 230 235 240

 Thr Val His Arg Asp Trp Leu Leu Tyr Ile Ile His Gly Phe Cys Gly
 245 250 255

 Gln Ser Lys Leu Leu Ile Tyr Gly Arg Pro Val Tyr Val Thr Leu Ile
 260 265 270

 Ala Arg Arg Ser Ser Lys Phe Ala Gly Thr Arg Phe Leu Lys Arg Gly
 275 280 285

 Ala Asn Cys Glu Gly Asp Val Ala Asn Glu Val Glu Thr Glu Gln Ile
 290 295 300

 Leu Cys Asp Ala Ser Val Met Ser Phe Thr Ala Gly Ser Tyr Ser Ser
 305 310 315 320

 Tyr Val Gln Val Arg Gly Ser Val Pro Leu Tyr Trp Ser Gln Asp Ile
 325 330 335

 Ser Thr Met Met Pro Lys Pro Pro Ile Thr Leu Asp Gln Ala Asp Pro
 340 345 350

 Phe Ala His Val Ala Ala Leu His Phe Asp Gln Met Phe Gln Arg Phe
 355 360 365

 Gly Ser Pro Ile Ile Ile Leu Asn Leu Val Lys Glu Arg Glu Lys Arg
 370 375 380

 Lys His Glu Arg Ile Leu Ser Glu Glu Leu Val Ala Ala Val Thr Tyr
 385 390 395 400

 Leu Asn Gln Phe Leu Pro Pro Glu His Thr Ile Val Tyr Ile Pro Trp
 405 410 415

 Asp Met Ala Lys Tyr Thr Lys Ser Lys Leu Cys Asn Val Leu Asp Arg
 420 425 430

 Leu Asn Val Ile Ala Glu Ser Val Val Lys Lys Thr Gly Phe Phe Val
 435 440 445

 Asn Arg Pro Asp Ser Tyr Cys Ser Ile Leu Arg Pro Asp Glu Lys Trp
 450 455 460

Asn Glu Leu Gly Gly Cys Val Ile Pro Thr Gly Arg Leu Gln Thr Gly
465 470 475 480

Ile Leu Arg Thr Asn Cys Val Asp Cys Leu Asp Arg Thr Asn Thr Ala
485 490 495

Gln Phe Met Val Gly Lys Cys Ala Leu Ala Tyr Gln Leu Tyr Ser Leu
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Gly Leu Ile Asp Lys Pro Asn Leu Gln Phe Asp Thr Asp Ala Val Arg
515 520 525

Leu Phe Glu Glu Leu Tyr Glu Asp His Gly Asp Thr Leu Ser Leu Gln
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Tyr Gly Gly Ser Gln Leu Val His Arg Val Lys Thr Tyr Arg Lys Ile
545 550 555 560

Ala Pro Trp Thr Gln His Ser Lys Asp Ile Met Gln Thr Leu Ser Arg
565 570 575

Tyr Tyr Ser Asn Ala Phe Ser Asp Ala Asp Arg Gln Asp Ser Ile Asn
580 585 590

Leu Phe Leu Gly Val Phe His Pro Thr Glu Gly Lys Pro His Leu Trp
595 600 605

Glu Leu Pro Thr Asp Phe Tyr Leu His His Lys Asn Thr Met Arg Leu
610 615 620

Leu Pro Thr Arg Arg Ser Tyr Thr Tyr Trp Trp Thr Pro Glu Val Ile
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Lys His Leu Pro Leu Pro Tyr Asp Glu Val Ile Cys Ala Ala Asn Leu
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Lys Lys Leu Ile Val Lys Lys Phe His Lys Tyr Glu Glu Glu Ile Asp
660 665 670

Ile His Asn Glu Phe Phe Arg Pro Tyr Glu Leu Ser Ser Phe Asp Asp
675 680 685

Thr Phe Cys Leu Ala Met Thr Ser Ser Ala Arg Asp Phe Met Pro Lys
690 695 700

Thr Val Gly Ile Asp Pro Ser Pro Phe Thr Val Arg Lys Pro Asp Glu
705 710 715 720

Thr Gly Lys Ser Val Leu Gly Asn Lys Ser Asn Arg Glu Glu Ala Val
725 730 735

Leu Gln Arg Lys Thr Ala Ala Ser Ala Pro Pro Pro Ser Glu Glu
740 | 745 750

Ala Val Ser Ser Ser Ser Glu Asp Asp Ser Gly Thr Asp Arg Glu Glu
755 760 765

Glu Gly Ser Val Ser Gln Arg Ser Thr Pro Val Lys Met Thr Asp Ala
770 775 780

Gly Asp Ser Ala Lys Val Thr Glu Asn Val Val Gln Pro Met Lys Glu
785 790 795 800

Leu Tyr Gly Ile Asn Leu Ser Asp Gly Leu Ser Glu Glu Asp Phe Ser
805 810 815

Ile Tyr Ser Arg Phe Val Gln Leu Gly Gln Ser Gln His Lys Gln Asp
820 825 830

Lys Asn Ser Gln Gln Pro Cys Ser Arg Cys Ser Asp Gly Val Ile Lys
835 840 845

Leu Thr Pro Ile Ser Ala Phe Ser Gln Asp Asn Ile Tyr Glu Val Gln
850 855 860

Pro Pro Arg Val Asp Arg Lys Ser Thr Glu Ile Phe Gln Ala His Ile
865 870 875 880

Gln Ala Ser Gln Gly Ile Met Gln Pro Leu Gly Lys Glu Asp Ser Ser
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Met Tyr Arg Glu Tyr Ile Arg Asn Arg Tyr Leu
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<213> Homo sapiens

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caagaagtaa gggaaacctct tggccgcctt gatctggaa atagaacaaa gatgggacag 240
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Ile Glu Lys Leu Val Arg Glu Phe Val Ala Gln Asn Asn Thr Val Gln
 35 40 45

Ile Lys His Val Ile Gln Thr Leu Ser Gln Glu Phe Ala Leu Ser Gln
 50 55 60

His Pro His Ser Arg Lys Gly Gly Leu Ile Gly Leu Ala Ala Cys Ser
 65 70 75 80

Ile Ala Leu Gly Lys Asp Ser Gly Leu Tyr Leu Lys Glu Leu Ile Glu
 85 90 95

Pro Ala Leu Thr Cys Phe Asn Asp Ala Asp Ser Arg Leu Arg Tyr Tyr
 100 105 110

Ala Cys Glu Ala Leu Tyr Asn Ile Val Lys Val Ala Arg Gly Ala Val
 115 120 125

Leu Pro His Phe Asn Val Leu Phe Asp Gly Leu Ser Lys Leu Ala Ala
 130 135 140

Asp Pro Asp Pro Asn Val Lys Ser Gly Ser Glu Leu Leu Asp Arg Leu
 145 150 155 160
 Leu Lys Asp Ile Val Thr Glu Ser Asn Lys Phe Asp Leu Val Ser Phe
 165 170 175
 Ile Pro Leu Leu Arg Glu Arg Ile Tyr Ser Asn Asn Gln Tyr Ala Arg
 180 185 190
 Gln Phe Ile Ile Ser Trp Ile Leu Val Leu Glu Ser Val Pro Asp Ile
 195 200 205
 Asn Leu Leu Asp Tyr Leu Pro Glu Ile Leu Asp Gly Leu Phe Gln Ile
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 Leu Gly Asp Asn Gly Lys Glu Ile Arg Lys Met Cys Glu Val Val Leu
 225 230 235 240
 Gly Glu Phe Leu Lys Glu Ile Lys Lys Asn Pro Ser Ser Val Lys Phe
 245 250 255
 Ala Glu Met Ala Asn Ile Leu Val Ile His Cys Gln Thr Thr Asp Asp
 260 265 270
 Leu Ile Gln Leu Thr Ala Met Cys Trp Met Arg Glu Phe Ile Gln Leu
 275 280 285
 Ala Gly Arg Val Met Leu Pro Tyr Ser Ser Gly Ile Leu Thr Ala Val
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 Leu Pro Cys Leu Ala Tyr Asp Asp Arg Lys Lys Ser Ile Lys Glu Val
 305 310 315 320
 Ala Asn Val Cys Asn Gln Ser Leu Met Lys Leu Val Thr Pro Glu Asp
 325 330 335
 Asp Glu Leu Asp Glu Leu Arg Pro Gly Gln Arg Gln Ala Glu Pro Thr
 340 345 350
 Pro Asp Asp Ala Leu Pro Lys Gln Glu Gly Thr Ala Ser Gly Gly Pro
 355 360 365
 Asp Gly Ser Cys Asp Ser Ser Phe Ser Ser Gly Ile Ser Val Phe Thr
 370 375 380
 Ala Ala Ser Thr Glu Arg Ala Pro Val Thr Leu His Leu Asp Gly Ile
 385 390 395 400
 Val Gln Val Leu Asn Cys His Leu Ser Asp Thr Ala Ile Gly Met Met
 405 410 415
 Thr Arg Ile Ala Val Leu Lys Trp Leu Tyr His Leu Tyr Ile Lys Thr
 420 425 430
 Pro Arg Lys Met Phe Arg His Thr Asp Ser Leu Phe Pro Ile Leu Leu
 435 440 445

Gln Thr Leu Ser Asp Glu Ser Asp Glu Val Ile Leu Lys Asp Leu Glu
 450 455 460

Val Leu Ala Glu Ile Ala Ser Ser Pro Ala Gly Gln Thr Asp Asp Pro
 465 470 475 480

Gly Pro Leu Asp Gly Pro Asp Leu Gln Ala Ser His Ser Glu Leu Gln
 485 490 495

Val Pro Thr Pro Gly Arg Ala Gly Leu Leu Asn Thr Ser Gly Thr Lys
 500 505 510

Gly Leu Glu Cys Ser Pro Ser Thr Pro Thr Met Asn Ser Tyr Phe Tyr
 515 520 525

Lys Phe Met Ile Asn Leu Leu Lys Arg Phe Ser Ser Glu Arg Lys Leu
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Leu Glu Val Arg Gly Pro Phe Ile Ile Arg Gln Leu Cys Leu Leu Leu
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Asn Ala Glu Asn Ile Phe His Ser Met Ala Asp Ile Leu Leu Arg Glu
 565 570 575

Glu Asp Leu Lys Phe Ala Ser Thr Met Val His Ala Leu Asn Thr Ile
 580 585 590

Leu Leu Thr Ser Thr Glu Leu Phe Gln Leu Arg Asn Gln Leu Lys Asp
 595 600 605

Leu Lys Thr Leu Glu Ser Gln Asn Leu Phe Cys Cys Leu Tyr Arg Ser
 610 615 620

Trp Cys His Asn Pro Val Thr Thr Val Ser Leu Cys Phe Leu Thr Gln
 625 630 635 640

Asn Tyr Arg His Ala Tyr Asp Leu Ile Gln Lys Phe Gly Asp Leu Glu
 645 650 655

Val Thr Val Asp Phe Leu Ala Glu Val Asp Lys Leu Val Gln Leu Ile
 660 665 670

Glu Cys Pro Ile Phe Thr Tyr Val Arg Leu Gln Leu Leu Asp Val Lys
 675 680 685

Asn Asn Pro Tyr Leu Ile Lys Ala Leu Tyr Gly Leu Leu Met Leu Leu
 690 695 700

Pro Gln Ser Ser Ala Phe Gln Leu Leu Ser His Arg Leu Gln Cys Val
 705 710 715 720

Pro Asn Pro Glu Leu Leu Gln Thr Glu Asp Ser Leu Lys Ala Ala Pro
 725 730 735

Lys Ser Gln Lys Ala Asp Ser Pro Ser Ile Asp Tyr Ala Glu Leu Leu
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Gln His Phe Glu Lys Val Gln Asn Lys His Leu Glu Val Arg His Gln
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Arg Ser Gly Arg Gly Asp His Leu Asp Arg Arg Val Val Leu
770 775 780

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<213> Vac14 Yeast

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Leu Glu Gly Asp Tyr Asp Arg Ile Asp Lys Ile Ile Asp Glu Leu Cys
35 40 45

Arg Asp Tyr Ala Tyr Ala Leu His Gln Pro Met Ala Arg Asn Ala Gly
50 55 60

Leu Met Gly Leu Ala Ala Thr Ala Ile Ala Leu Gly Ile Asn Asp Val
65 70 75 80

Gly Arg Tyr Leu Arg Asn Ile Leu Pro Pro Val Leu Ala Cys Phe Gly
85 90 95

Asp Gln Asn Asp Gln Val Arg Phe Tyr Ala Cys Glu Ser Leu Tyr Asn
100 105 110

Ile Ala Lys Ile Ala Lys Gly Glu Ile Leu Val Tyr Phe Asn Glu Ile
115 120 125

Phe Asp Val Leu Cys Lys Ile Ser Ala Asp Thr Glu Asn Ser Val Arg
130 135 140

Gly Ala Ala Glu Leu Leu Asp Arg Leu Ile Lys Asp Ile Val Ala Glu
145 150 155 160

Arg Ala Ser Asn Tyr Ile Ser Ile Val Asn Asn Gly Ser His Gly Leu
165 170 175

Leu Pro Ala Ile Lys Thr Asp Pro Ile Ser Gly Asp Val Tyr Gln Glu
180 185 190

Glu Tyr Glu Gln Asp Asn Gln Leu Ala Phe Ser Leu Pro Lys Phe Ile
195 200 205

Pro Leu Leu Thr Glu Arg Ile Tyr Ala Ile Asn Pro Asp Thr Arg Val
210 215 220

Phe Leu Val Asp Trp Leu Lys Val Leu Leu Asn Thr Pro Gly Leu Glu
225 230 235 240

Leu Ile Ser Tyr Leu Pro Ser Phe Leu Gly Gly Leu Phe Thr Phe Leu
245 250 255

Gly Asp Ser His Lys Asp Val Arg Thr Val Thr His Thr Leu Met Asp
260 265 270

Ser Leu Leu His Glu Val Asp Arg Ile Ser Lys Leu Gln Thr Glu Ile

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Lys Lys Lys Thr Leu Met Thr Ala Leu Gly Gly Leu Ser Lys Pro Leu		
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Ser Met Glu Thr Asp Asp Thr Lys Leu Ser Asn Thr Asn Glu Thr Asp		
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Asp Glu Arg His Leu Thr Ser Gln Glu Gln Leu Leu Asp Ser Glu Ala		
355	360	365
Thr Ser Gln Glu Pro Leu Arg Asp Gly Glu Glu Tyr Ile Pro Gly Gln		
370	375	380
Asp Ile Asn Leu Asn Phe Pro Glu Val Ile Thr Val Leu Val Asn Asn		
385	390	395
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Leu Ala Ser Ser Glu Ala Glu Ile Gln Leu Ile Ala Leu His Trp Ile		
405	410	415
Gln Val Ile Leu Ser Ile Ser Pro Asn Val Phe Ile Pro Phe Leu Ser		
420	425	430
Lys Ile Leu Ser Val Leu Leu Lys Leu Leu Ser Asp Ser Asp Pro His		
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Ile Thr Glu Ile Ala Gln Leu Val Asn Gly Gln Leu Leu Ser Leu Cys		
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Ser Ser Tyr Val Gly Lys Glu Thr Asp Gly Lys Ile Ala Tyr Gly Pro		
465	470	475
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Ile Val Asn Ser Leu Thr Leu Gln Phe Phe Asp Ser Arg Ile Asp Ala		
485	490	495
Lys Ile Ala Cys Leu Asp Trp Leu Ile Leu Ile Tyr His Lys Ala Pro		
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515	520	525
Ser Leu Ser Asn Arg Asp Ser Val Leu Ile Glu Lys Ala Leu Ser Leu		
530	535	540
Leu Gln Ser Leu Cys Ser Asp Ser Asn Asp Asn Tyr Leu Arg Gln Phe		
545	550	555
560		
Leu Gln Asp Leu Leu Thr Leu Phe Lys Arg Asp Thr Lys Leu Val Lys		
565	570	575
Thr Arg Ala Asn Phe Ile Met Arg Gln Ile Ser Ser Arg Leu Ser Pro		

580	585	590
Glu Arg Val Tyr Lys Val Ile Ser Ser Ile Leu Asp Asn Tyr Asn Asp		
595	600	605
Thr Thr Phe Val Lys Met Met Ile Gln Ile Leu Ser Thr Asn Leu Ile		
610	615	620
Thr Ser Pro Glu Met Ser Ser Leu Arg Asn Lys Leu Arg Thr Cys Glu		
625	630	635
Asp Gly Met Phe Phe Asn Ser Leu Phe Lys Ser Trp Cys Pro Asn Pro		
645	650	655
Val Ser Val Ile Ser Leu Cys Phe Val Ala Glu Asn Tyr Glu Leu Ala		
660	665	670
Tyr Thr Val Leu Gln Thr Tyr Ala Asn Tyr Glu Leu Lys Leu Asn Asp		
675	680	685
Leu Val Gln Leu Asp Ile Leu Ile Gln Leu Phe Glu Ser Pro Val Phe		
690	695	700
Thr Arg Met Arg Leu Gln Leu Leu Glu Gln Gln Lys His Pro Phe Leu		
705	710	715
720		
His Lys Cys Leu Phe Gly Ile Leu Met Ile Ile Pro Gln Ser Lys Ala		
725	730	735
Phe Glu Thr Leu Asn Arg Arg Leu Asn Ser Leu Asn Ile Trp Thr Ser		
740	745	750
Gln Ser Tyr Val Met Asn Asn Tyr Ile Arg Gln Arg Glu Asn Ser Asn		
755	760	765
Phe Cys Asp Ser Asn Ser Asp Ile Ser Gln Arg Ser Val Ser Gln Ser		
770	775	780
Lys Leu His Phe Gln Glu Leu Ile Asn His Phe Lys Ala Val Ser Glu		
785	790	795
800		
Glu Asp Glu Tyr Ser Ser Asp Met Ile Arg Leu Asp His Gly Ala Asn		
805	810	815
Asn Lys Ser Leu Leu Leu Gly Ser Phe Leu Asp Gly Ile Asp Glu Asp		
820	825	830
Lys Gln Glu Ile Val Thr Pro Ile Ser Pro Met Asn Glu Ala Ile Asn		
835	840	845
Glu Glu Met Glu Ser Pro Asn Asp Asn Ser Ser Val Ile Leu Lys Asp		
850	855	860
Ser Gly Ser Leu Pro Phe Asn Arg Asn Val Ser Asp Lys Leu Lys Lys		
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880		

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35 40 45

Phe Val Asn Leu Phe Arg Phe Asn Lys Glu Arg Ala Glu Gly Gly Gln
50 55 60

Gly Glu Gln Gln Pro Leu Ser Gly Ser Trp Thr Ser Pro Gln Leu Pro
65 70 75 80

Ser Arg Thr Gln Ser Val Arg Ser Pro Thr Pro Tyr Lys Lys Gln Leu
85 90 95

Asn Glu Glu Leu Gln Arg Arg Ser Ser Ala Leu Asp Thr Arg Arg Lys
100 105 110

Ala Glu Pro Thr Phe Gly Gly His Asp Pro Arg Thr Ala Val Gln Leu
115 120 125

Arg Ser Leu Ser Thr Val Leu Lys Arg Leu Lys Glu Ile Met Glu Gly
130 135 140

Lys Ser Gln Asp Ser Asp Leu Lys Gln Tyr Trp Met Pro Asp Ser Gln
145 150 155 160

Cys Lys Glu Cys Tyr Asp Cys Ser Glu Lys Phe Thr Thr Phe Arg Arg
165 170 175

Arg His His Cys Arg Leu Cys Gly Gln Ile Phe Cys Ser Arg Cys Cys
180 185 190

Asn Gln Glu Ile Pro Gly Lys Phe Met Gly Tyr Thr Gly Asp Leu Arg
195 200 205

Ala Cys Thr Tyr Cys Arg Lys Ile Ala Leu Ser Tyr Ala His Ser Thr
210 215 220

Asp Ser Asn Ser Ile Gly Glu Asp Leu Asn Ala Leu Ser Asp Ser Ala
225 230 235 240

Cys Ser Val Ser Val Leu Asp Pro Ser Glu Pro Arg Thr Pro Val Gly
245 250 255

Ser Arg Lys Ala Ser Arg Asn Ile Phe Leu Glu Asp Asp Leu Ala Trp
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Gln Ser Leu Ile His Pro Asp Ser Ser Asn Thr Pro Leu Ser Thr Arg

275	280	285
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290	295	300
Ser Ala Ser Ile Thr Asn Leu Ser Leu Asp Arg Ser Gly Ser Pro Met		
305	310	315
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Val Pro Ser Tyr Glu Thr Ser Val Ser Pro Gln Ala Asn Arg Thr Tyr		
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Val Arg Thr Glu Thr Thr Glu Asp Glu Arg Lys Ile Leu Leu Asp Ser		
340	345	350
Val Gln Leu Lys Asp Leu Trp Lys Lys Ile Cys His His Ser Ser Gly		
355	360	365
Met Glu Phe Gln Asp His Arg Tyr Trp Leu Arg Thr His Pro Asn Cys		
370	375	380
Ile Val Gly Lys Glu Leu Val Asn Trp Leu Ile Arg Asn Gly His Ile		
385	390	395
400		
Ala Thr Arg Ala Gln Ala Ile Ala Ile Gly Gln Ala Met Val Asp Gly		
405	410	415
Arg Trp Leu Asp Cys Val Ser His His Asp Gln Leu Phe Arg Asp Glu		
420	425	430
Tyr Ala Leu Tyr Arg Pro Leu Gln Ser Thr Glu Phe Ser Glu Thr Pro		
435	440	445
Ser Pro Asp Ser Asp Ser Val Asn Ser Val Glu Gly His Ser Glu Pro		
450	455	460
Ser Trp Phe Lys Asp Ile Lys Phe Asp Asp Ser Asp Thr Glu Gln Ile		
465	470	475
480		
Ala Glu Glu Gly Asp Asp Asn Leu Ala Lys Tyr Leu Ile Ser Asp Thr		
485	490	495
Gly Gly Gln Gln Leu Ser Ile Ser Asp Ala Phe Ile Lys Glu Ser Leu		
500	505	510
Phe Asn Arg Arg Val Glu Glu Lys Ser Lys Glu Leu Pro Phe Thr Pro		
515	520	525
Leu Gly Trp His His Asn Asn Leu Glu Leu Leu Arg Glu Glu Asn Gly		
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Glu Lys Gln Ala Met Glu Arg Leu Leu Ser Ala Asn His Asn His Met		
545	550	555
560		
Met Ala Leu Leu Gln Gln Leu Leu His Ser Asp Ser Leu Ser Ser Ser		
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Trp Arg Asp Ile Ile Val Ser Leu Val Cys Gln Val Val Gln Thr Val		

580	585	590
Arg Pro Asp Val Lys Asn Gln Asp Asp Asp Met Asp Ile Arg Gln Phe		
595	600	605
Val His Ile Lys Lys Ile Pro Gly Gly Lys Lys Phe Asp Ser Val Val		
610	615	620
Val Asn Gly Phe Val Cys Thr Lys Asn Ile Ala His Lys Lys Met Asn		
625	630	635
Ser Cys Ile Lys Asn Pro Lys Ile Leu Leu Lys Cys Ser Ile Glu		
645	650	655
Tyr Leu Tyr Arg Glu Glu Thr Lys Phe Thr Cys Ile Asp Pro Ile Val		
660	665	670
Leu Gln Glu Arg Glu Phe Leu Lys Asn Tyr Val Gln Arg Ile Val Asp		
675	680	685
Val Arg Pro Thr Leu Val Leu Val Glu Lys Thr Val Ser Arg Ile Ala		
690	695	700
Gln Asp Met Leu Leu Glu His Gly Ile Thr Leu Val Ile Asn Val Lys		
705	710	715
Ser Gln Val Leu Glu Arg Ile Ser Arg Met Thr Gln Gly Asp Leu Val		
725	730	735
Met Ser Met Asp Gln Leu Leu Thr Lys Pro His Leu Gly Thr Cys His		
740	745	750
Lys Phe Tyr Met Gln Ile Phe Gln Leu Pro Asn Glu Gln Thr Lys Thr		
755	760	765
Leu Met Phe Phe Glu Gly Cys Pro Gln His Leu Gly Cys Thr Ile Lys		
770	775	780
Leu Arg Gly Gly Ser Asp Tyr Glu Leu Ala Arg Val Lys Glu Ile Leu		
785	790	795
Ile Phe Met Ile Cys Val Ala Tyr His Ser Gln Leu Glu Ile Ser Phe		
805	810	815
Leu Met Asp Glu Phe Ala Met Pro Pro Thr Leu Met Gln Asn Pro Ser		
820	825	830
Phe His Ser Leu Ile Glu Gly Arg Gly His Glu Gly Ala Val Gln Glu		
835	840	845
Gln Tyr Gly Gly Ser Ile Pro Trp Asp Pro Asp Ile Pro Pro Glu		
850	855	860
Ser Leu Pro Cys Asp Asp Ser Ser Leu Leu Glu Ser Arg Ile Val Phe		
865	870	875
Glu Lys Gly Glu Gln Glu Asn Lys Asn Leu Pro Gln Ala Val Ala Ser		

885	890	895
Val Lys His Gln Glu His Ser Thr Thr Ala Cys Pro Ala Gly Leu Pro		
900	905	910
Cys Ala Phe Phe Ala Pro Val Pro Glu Ser Leu Leu Pro Leu Pro Val		
915	920	925
Asp Asp Gln Gln Asp Ala Leu Gly Ser Glu Leu Pro Glu Ser Leu Gln		
930	935	940
Gln Thr Val Val Leu Gln Asp Pro Lys Ser Gln Ile Arg Ala Phe Arg		
945	950	955
Asp Pro Leu Gln Asp Asp Thr Gly Leu Tyr Val Thr Glu Glu Val Thr		
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Ser Ser Glu Asp Lys Arg Lys Thr Tyr Ser Leu Ala Phe Lys Gln Glu		
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Leu Lys Asp Val Ile Leu Cys Ile Ser Pro Val Ile Thr Phe Arg Glu		
995	1000	1005
Pro Phe Leu Leu Thr Glu Lys Gly Met Arg Cys Ser Thr Arg Asp Tyr		
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Phe Ala Glu Gln Val Tyr Trp Ser Pro Leu Leu Asn Lys Glu Phe Lys		
1025	1030	1035
1040		
Glu Met Glu Asn Arg Arg Lys Lys Gln Leu Leu Arg Asp Leu Ser Gly		
1045	1050	1055
Leu Gln Gly Met Asn Gly Ser Ile Gln Ala Lys Ser Ile Gln Val Leu		
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Pro Ser His Glu Leu Val Ser Thr Arg Ile Ala Glu His Leu Gly Asp		
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Ser Gln Ser Leu Gly Arg Met Leu Ala Asp Tyr Arg Ala Arg Gly Gly		
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Arg Ile Gln Pro Lys Asn Ser Asp Pro Phe Ala His Ser Lys Asp Ala		
1105	1110	1115
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Ser Ser Thr Ser Ser Gly Lys Ser Gly Ser Lys Asn Glu Gly Asp Glu		
1125	1130	1135
Glu Arg Gly Leu Ile Leu Ser Asp Ala Val Trp Ser Thr Lys Val Asp		
1140	1145	1150
Cys Leu Asn Pro Ile Asn His Gln Arg Leu Cys Val Leu Phe Ser Ser		
1155	1160	1165
Ser Ser Ala Gln Ser Ser Asn Ala Pro Ser Ala Cys Val Ser Pro Trp		
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Ile Val Thr Met Glu Phe Tyr Gly Lys Asn Asp Leu Thr Leu Gly Ile		

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Phe Leu Glu Arg Tyr Cys Phe Arg Pro Ser Tyr Gln Cys Pro Ser Met			
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Phe Cys Asp Thr Pro Met Val His His Ile Arg Arg Phe Val His Gly			
1220	1225	1230	
Gln Gly Cys Val Gln Ile Ile Leu Lys Glu Leu Asp Ser Pro Val Pro			
1235	1240	1245	
Gly Tyr Gln His Thr Ile Leu Thr Tyr Ser Trp Cys Arg Ile Cys Lys			
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Gln Val Thr Pro Val Val Ala Leu Ser Asn Glu Ser Trp Ser Met Ser			
1265	1270	1275	1280
Phe Ala Lys Tyr Leu Glu Leu Arg Phe Tyr Gly His Gln Tyr Thr Arg			
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Arg Ala Asn Ala Glu Pro Cys Gly His Ser Ile His His Asp Tyr His			
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Gln Tyr Phe Ser Tyr Asn Gln Met Val Ala Ser Phe Ser Tyr Ser Pro			
1315	1320	1325	
Ile Arg Leu Leu Glu Val Cys Val Pro Leu Pro Lys Ile Phe Ile Lys			
1330	1335	1340	
Arg Gln Ala Pro Leu Lys Val Ser Leu Leu Gln Asp Leu Lys Asp Phe			
1345	1350	1355	1360
Phe Gln Lys Val Ser Gln Val Tyr Val Ala Ile Asp Glu Arg Leu Ala			
1365	1370	1375	
Ser Leu Lys Thr Asp Thr Phe Ser Lys Thr Arg Glu Glu Lys Met Glu			
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Asp Ile Phe Ala Gln Lys Glu Met Glu Glu Gly Glu Phe Lys Asn Trp			
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Ile Glu Lys Met Gln Ala Arg Leu Met Ser Ser Ser Val Asp Thr Pro			
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Gln Gln Leu Gln Ser Val Phe Glu Ser Leu Ile Ala Lys Lys Gln Ser			
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Leu Cys Glu Val Leu Gln Ala Trp Asn Asn Arg Leu Arg Asp Leu Phe			
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Pro Pro Glu Leu Asp Thr Ala Ser Ser Glu Asp Val Phe Asp Gly		
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His Leu Leu Gly Ser Thr Asp Ser Gln Val Lys Glu Lys Ser Thr Met		
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Lys Ala Ile Phe Ala Asn Leu Leu Pro Gly Asn Ser Tyr Asn Pro Ile		
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Phe Ala Leu Ser Cys Lys Glu Tyr Arg Asn Ala Leu Glu Glu Leu Ser		
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Lys Ala Thr Gln Trp Asn Ser Ala Glu Glu Gly Leu Pro Thr Asn Ser		
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Thr Ser Asp Ser Arg Pro Lys Ser Ser Ser Pro Ile Arg Leu Pro Glu		
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Thr Lys Lys Ala Ser Gly Met Leu Ser Phe Phe Arg Gly Thr Ala Gly		
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Lys Ser Pro Asp Leu Ser Ser Gln Lys Arg Glu Thr Leu Arg Gly Ala		
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Asp Ser Ala Tyr Tyr Gln Val Gly Gln Thr Gly Lys Glu Gly Thr Glu		
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Asn Gln Gly Val Glu Pro Gln Asp Glu Val Asp Gly Gly Asp Thr Gln		
1730	1735	1740
Lys Lys Gln Leu Ile Asn Pro His Val Glu Leu Gln Phe Ser Asp Ala		
1745	1750	1755
1760		
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Tyr Ile Thr Asn Ala Val Gln Gln Lys Arg Pro Thr Ala Leu Ala Lys		
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1860	1865	1870
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1875	1880	1885
Lys Met Ala Gln Val Phe Asp Leu Lys Gly Ser Leu Arg Asn Arg Asn		
1890	1895	1900
Val Lys Thr Asp Thr Gly Lys Glu Ser Cys Asp Val Val Leu Leu Asp		
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1920		
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